



## SEQUENCE LISTING

<110> Murphy, Dennis  
Reid, John

<120> ALPHA GALACTOSIDASES AND METHODS FOR  
MAKING AND USING THEM (Amended)

<130> 09010-004005

<140> US 09/886,400  
<141> 2001-06-20

<150> US 09/407,806  
<151> 1999-09-28

<150> US 08/613,220  
<151> 1996-03-08

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1  
<211> 52  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetically generated oligonucleotide

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<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetically generated oligonucleotide

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<210> 3  
<211> 1095  
<212> DNA  
<213> Thermococcus alcaliphilus

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ccttttgggc tcaacataac gggctatacc ttaaagttcc tcccgaagga tattatagac 180  
ctcgttaaag ggggcatcgc gagtgcacctg atagagataa tcggaacgag ctacacgcac 240  
gcaataactcc ccctcctgcc gcttagcaga gtagaagcac aagttcagag agatagggaa 300

gttaaggaag agctcttcga ggtttctcca aagggattct ggctgccaga gctcgcctat	360
gacccgataa tccctgccat actgaaggac aacgggttatg agtatctatt cgccgacggg	420
gaggcgatgc ttttctcagc tcatctcaac tcggcgataa agccaattaa accgctctat	480
ccacacctta taaaggccca aagggaaaag cgcttttaggt acatcagcta tctccttggt	540
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gtcaaagaca tcgaagccgt acccgtttgg gtggccgtga acacggctgt aatgctcggc	660
atcggaaggc ttcctcttat gaatcctaag aaagtggcga gctggataga ggacaaggac	720
aacattcttc tatacggcac cgatatagag ttcattggct ataggacat tgcaggctac	780
agaatgagtg ttgagggatt attagagggt atagacgagc tcaactcgga actgtgcctt	840
ccctcagagc tgaagcacag tggaaggagg ctctacttac ggacttcgag ttgggcacca	900
gataagagct tgaggatatg gagagaggac gaagggaacg caagacttaa tatgctgtcc	960
tacaatatga ggggcgaact cgcttttta gccgagaaca gcgatgcaag gggatgggag	1020
cccctccctg agaggaggct ggatgccttc cgggcgatat ataacgattg gaggggtgaa	1080
aatggggaac cttag	1095

&lt;210&gt; 4

&lt;211&gt; 364

&lt;212&gt; PRT

&lt;213&gt; Thermococcus alcaliphilus

&lt;400&gt; 4

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Lys Ser Glu Ile Pro Lys Val Ile Glu Lys Ala Tyr Ile Pro Val Ile	
20 25 30	
Glu Thr Leu Ile Lys Glu Glu Ile Pro Phe Gly Leu Asn Ile Thr Gly	
35 40 45	
Tyr Thr Leu Lys Phe Leu Pro Lys Asp Ile Ile Asp Leu Val Lys Gly	
50 55 60	
Gly Ile Ala Ser Asp Leu Ile Glu Ile Ile Gly Thr Ser Tyr Thr His	
65 70 75 80	
Ala Ile Leu Pro Leu Leu Pro Leu Ser Arg Val Glu Ala Gln Val Gln	
85 90 95	
Arg Asp Arg Glu Val Lys Glu Glu Leu Phe Glu Val Ser Pro Lys Gly	
100 105 110	
Phe Trp Leu Pro Glu Leu Ala Tyr Asp Pro Ile Ile Pro Ala Ile Leu	
115 120 125	
Lys Asp Asn Gly Tyr Glu Tyr Leu Phe Ala Asp Gly Glu Ala Met Leu	
130 135 140	
Phe Ser Ala His Leu Asn Ser Ala Ile Lys Pro Ile Lys Pro Leu Tyr	
145 150 155 160	
Pro His Leu Ile Lys Ala Gln Arg Glu Lys Arg Phe Arg Tyr Ile Ser	
165 170 175	
Tyr Leu Leu Gly Leu Arg Glu Leu Arg Lys Ala Ile Lys Leu Val Phe	
180 185 190	
Glu Gly Lys Val Thr Leu Lys Ala Val Lys Asp Ile Glu Ala Val Pro	
195 200 205	
Val Trp Val Ala Val Asn Thr Ala Val Met Leu Gly Ile Gly Arg Leu	
210 215 220	
Pro Leu Met Asn Pro Lys Lys Val Ala Ser Trp Ile Glu Asp Lys Asp	
225 230 235 240	
Asn Ile Leu Leu Tyr Gly Thr Asp Ile Glu Phe Ile Gly Tyr Arg Asp	
245 250 255	
Ile Ala Gly Tyr Arg Met Ser Val Glu Gly Leu Leu Glu Val Ile Asp	
260 265 270	
Glu Leu Asn Ser Glu Leu Cys Leu Pro Ser Glu Leu Lys His Ser Gly	
275 280 285	

Arg	Glu	Leu	Tyr	Leu	Arg	Thr	Ser	Ser	Trp	Ala	Pro	Asp	Lys	Ser	Leu
	290					295					300				
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305					310					315					320
Tyr	Asn	Met	Arg	Gly	Glu	Leu	Ala	Phe	Leu	Ala	Glu	Asn	Ser	Asp	Ala
				325					330					335	
Arg	Gly	Trp	Glu	Pro	Leu	Pro	Glu	Arg	Arg	Leu	Asp	Ala	Phe	Arg	Ala
			340					345					350		
Ile	Tyr	Asn	Asp	Trp	Arg	Gly	Glu	Asn	Gly	Glu	Pro				
		355					360								